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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,724	09/28/2001	Jean-Marie Aubry	2001-1443A	7009

513            7590            02/13/2002

WENDEROTH, LIND & PONACK, L.L.P.  
2033 K STREET N. W.  
SUITE 800  
WASHINGTON, DC 20006-1021

[REDACTED] EXAMINER

PRICE, ELVIS O

[REDACTED] ART UNIT      [REDACTED] PAPER NUMBER

1621

DATE MAILED: 02/13/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/937,724	AUBRY ET AL.	
	Examiner	Art Unit	
	Elvis O. Price	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on \_\_\_\_\_.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-8 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u>	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

Claims 1-8 are pending in the application.

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

The information disclosure statement filed 9/28/01 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been placed in the application file, and the information referred to therein has been considered as to the merits.

### *Claim Rejections - 35 USC § 101*

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-10 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 09937725. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present application's claim description of a process for the oxidation of hydrophobic organic substrates by means of singlet oxygen, in the presence of a heterogeneous or homogeneous catalyst is also claimed in Application No. 09937725. The difference being that application No. 09937725 claims organic substrates in general and a lanthanide catalyst. This difference would be obvious to the skilled artisan since organic substrates encompass "hydrophobic organic substrates" and the lanthanide catalyst would have to be either heterogeneous or homogeneous.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton et al. {J. Chem. Soc., Perkin Transactions 1, 1975, pp. 1610-1614}.

Barton et al. disclose a process for the oxidation of hydrophobic organic substrates, by means of singlet oxygen, which comprises adding a heterogeneous

cesium(IV) oxide-hydrogen peroxide catalyst (30% peroxide was used to make the catalyst) to the substrate(s) in the presence of an organic solvent such as methanol, ethanol or tertiary butanol (see Abstract and experimental section).

Claims 1, 2 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Laar et al. {Chem. Commun., 1998, pp. 267-268}.

Van Laar et al. disclose a process in which hydrophobic organic substrates (e.g., alpha-terpinene) are oxidized, by means of singlet oxygen, in the presence of an organic solvent (1,4-dioxane) and a heterogeneous catalyst based on Molydenum and 35% hydrogen peroxide (see Table 1 and Reaction conditions associated with Table 1)

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. {J. Chem. Soc., Perkin Transactions 1, 1975, pp. 1610-1614}, in view of Aubry {J. Am. Chem. Soc. 1985, 107, pp. 5844-5849}.

Applicants claim a process for the oxidation of hydrophobic organic substrates, by means of singlet oxygen, which comprises adding between 30% to 70% hydrogen peroxide to the said substrates in an organic solvent in the presence of a heterogeneous or homogeneous catalyst.

Barton et al. teach a process for the oxidation of hydrophobic organic substrates, by means of singlet oxygen, which comprises adding a heterogeneous cesium(IV) oxide-hydrogen peroxide catalyst to the substrate(s) in the presence of an organic solvent such as methanol, ethanol or tertiary butanol. Barton et al. teach that the best solvents are alcohols (methanol, ethanol, etc.) (see bottom of second paragraph on pg. 1612). The difference between the presently claimed invention and the Barton et al. reference is that Barton et al. reference is silent about catalysts based on the metals listed in dependent claim 5 (mostly of the lanthanide series) of the present application.

Aubry teaches the oxidation of organic substrates by means of singlet oxygen, which comprises adding between 30% to 70% hydrogen peroxide in water or water/solvent mixture, in the presence of a heterogeneous catalysts, as presently claimed in claim 5 (see entire publication and especially, Table 1, Figure 1 and experimental section). Aubry further teaches that the use of a hydrophobic compound (substrate or trap) requires the addition of 70% of an organic solvent (methanol) (see bottom of pg. 5846 and bottom of page 5848).

It would have been *prima facie* obvious to one of ordinary skill in the art to oxidize hydrophobic organic substrates as presently claimed because Barton et al. teach the oxidation of hydrophobic organic substrates, by means of singlet oxygen, by adding a heterogeneous catalyst and 30% hydrogen peroxide, in the presence of an organic solvent, while Aubry teaches numerous heterogeneous catalysts (Table 1) which are used in the generation of singlet oxygen.

The skill artisan would have been motivated, in view of Barton et al. and Aubry references, to use the heterogeneous catalysts taught by Aubry in the Barton et al. process (in place of the cesium (IV) oxide) because the heterogeneous catalysts taught by Aubry (especially of the lanthanide series in Table 1) are recognized as catalyst that generate a 70% or greater yield of an organic substrate oxidized by singlet oxygen. The skilled artisan would also be motivated to use organic solvents for hydrophobic organic substrates because it is known from the Aubry reference that it is favorable to solubilize the hydrophobic substrate, by adding an organic solvent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 703 605-1204. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 703 308-4532. The fax phone numbers for the organization where this application or proceeding is assigned is 703 308-4556 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.

Elvis O. Price, Ph.D.  
February 11, 2002

  
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Johann R. Richter, Ph.D., Esq.  
Supervisory Patent Examiner  
Technology Center 1600